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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,339	08/14/2001	Tokuju Oikawa	2870-0171P	6675
2292 7590 11/02/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER CHEA, THORL	
			ART UNIT 1795	PAPER NUMBER
			NOTIFICATION DATE 11/02/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 09/928,339	<b>Applicant(s)</b> OIKAWA, TOKUJU	
	<b>Examiner</b> Thorl Chea	<b>Art Unit</b> 1795	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 and 26-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23, 26-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is responsive to the communication on October 10, 2007; claims 1-31 are pending in this instant application.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 10, 2007 has been entered.
3. The rejection under 35 USC 112, first paragraph set forth in the Final Office Action on October 10, 2007 is withdrawn in view of the amendment on October 10, 2007.
4. Applicant's arguments with respect to claims 1-23, 26-31 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-23, 26-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed considered as a whole fails to provide support for the "SBR latex containing substantially no  $\text{NH}_4^+$ " presented in claim 1. The binder

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shown in the image forming layer such as SBR latex having, glass transition temperature :17 °C with  $K_2S_2O_8$  was used as polymerization initiator on page 92 does not provide support the support that the limitation “SBR latex containing substantially no  $NH_4^+$ ”. The specification as originally filed disclose the use of any binder including the LACTARS taught in Japanese Patent NO. 112072 (JP’072) such as LACTARS 7310K, 3307B, 4700H, 7132C. See LACTARS on page 60 of the present specification disclosure and that taught in JP’072 in [0210]. The amount of  $NH_4^+$  is related to the use of  $NH_4OH$  as pH modifier. See page 106, Table 1 of the present specification.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-23, 26-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claiming of “substantially no  $NH_4^+$ ” in “SBR latex containing substantially no  $NH_4^+$ ” is indefinite with respect to amount of  $NH_4^+$  since the specification disclosure fails to provide mete and bound of “substantially no  $NH_4^+$ ”.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 1-16, 18-31 are rejected under 35 U.S.C. 103(a) as obvious over the combination of Japanese Patent NO. 112072 (JP'072) and Yamashita (US Patent No. 6,071,687)

The JP'072 discloses a photothermographic material contains a compound of formula (1), (2) and (3) in condition (I) and the compound of formula (II) claimed in the present claimed invention. See claims 1-4; paragraph [0098] to [0100] and Table 1 in paragraph [0285]. See also the use of polymer latex including LACSTARs (SBR) in [0196] to [0204]; the use of SBR latex 3307B with glass transition temperature of 17 °C in the emulsion layer in [0267]; the use of polymer latex in the protective layer in [0225]; the use of lubricant such as wax in [0227], and the heat-development apparatus page 1 of 1. The samples 12-14 contain NaOH as pH modifier. Yamashita discloses SBR latex, which has been purified by ultrafiltration until ionic conductivity of 1.5 mS/cm was reached. See column 29, lines 7-57. JP'072 may not disclose whether the SBR latex containing substantially no  $\text{NH}_4^+$  present in the claimed invention. However, it has been known in Yamashita to purified the SBR latex before using as binder for the use thereof in the photothermographic material. Therefore, it would have been obvious to use the purified SBR latex taught in Yamashita as SBR latex taught in JP'072 to improve its binding property, and thereby provide a material as claimed.

11. Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent NO. 112072 (JP'072) as applied to claims 1-16, 18-30 above, and further in view of Ito et al and EP' 1096310. Ito et al in column 82 lines 16-30 discloses phosphorus oxide-derive compound as contrast enhancer for a photothermographic material. See also EP'310 on page 79, claim 8, and the control of film surface pH on page 52, paragraph [0200].

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It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use the phosphorus oxide-derive compound taught in Ito et al and EP'310 as contrast enhancer for the material of JP'072, and thereby provide a material as claimed.

***Response to Arguments***

12. Applicant's arguments filed October 10, 2007 have been fully considered but they are not persuasive because of the reason set forth in the rejection above, and the reason set forth in the Final Office action on April 10, 2007. There is no difference in the composition of the material taught in JP'072 and that claimed in the present claimed invention, except the trace of the amount of  $\text{NH}_4^+$  ions which has been known to be associated to base to control the pH of the photothermographic material. The worker of ordinary skill in the art would have either use the  $\text{NH}_4\text{OH}$  or an equivalent thereof such as  $\text{NaOH}$  shown in Table 1 in [0285] to provide the claimed invention. See samples 12-14 in Table 1 of JP'072 which related to the use of pH modifier such as  $\text{NaOH}$  contains same SBR latex as binding agent. Moreover, it has been known in Yamashita et al to purified the SBR latex before using the photothermographic material. It would have been obvious to the worker of ordinary skill in art the time the invention was made to purified the SBR latex taught in JP'072 such as being taught in Yamashita to get rid of the impurity associated therewith including the cationic ions such as  $\text{NH}_4^+$  in order to improve the property of the photothermographic material, and thereby to provide a material as claimed. See the reduction of ionic conductivity from 4.2 mS/cm to 1.5 mS/cm in column 29, lines 47-57. Therefore, the ionic conductivity of the SBR latex is low and accordingly, the ionic substance such as  $\text{NH}_4^+$  would be in amount of substantially low if existed therein.

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The argument with respect to the amount of  $\text{NH}_4^+$  in LACSTARS 3307B in an amount of 0.25 mmole/m<sup>2</sup> is not persuasive since it has been known in Yamashita to purify the LACTARS before the use thereof in the imaging layer of the photothermographic material, and the worker of ordinary skill in the art would have use any known process to purify the LACSTARS taught in JP'072.

The argument with respect to the unexpected results is not persuasive since the  $\text{NH}_4^+$  is considered as impurity associated with binder and have no utility in improving the property of the material. The applicants appears to argue about the criticality of the content of the  $\text{NH}_4^+$ . However, the amount of the  $\text{NH}_4^+$  in the photothermographic material claimed in the present claimed invention is ranged from 0 to 0.06 mmol/m<sup>2</sup>. Therefore, the claimed material does not require the  $\text{NH}_4^+$  content as claimed. It appears that the applicants discovered the impurity of the  $\text{NH}_4^+$  associated with the polymer latex, rather a new addenda for improving the photothermographic material. The prior art of record do not disclose such ions since this ions have no usefulness in improving the photothermographic material. The addenda used in the present claimed invention has been known in the art such as disclosed in the applied prior art of record. The results shown in the Declaration would have expected by the worker of ordinary skill in the art since "Product which differs from the prior art only its purity is obvious when the pure product possesses unexpected properties not possessed by the impure one. Ex parte Steelmand 140 USPQ 189; Ex parte Gray 10 USPQ 2d 1922, 1925 (BPAI 1989)". Second, the Declaration has little probative value since it is not consistence with the specification disclosure. There is nowhere in the specification disclosure showing that the source of  $\text{NH}_4^+$  inherently derives from the polymer latex such as the LACSTRAR presented in the argument. The results

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shown in the specification disclosure such as in Table 1 wherein the sample contains surface modifier other than  $\text{NH}_4\text{OH}$  contains less  $\text{NH}_4^+$  content. See samples 1-4, 1-9, 1-11.

The Declaration submitted on November 7, 2003 shows that the sample 3 was prepared according to the samples 3 in shown in Table 1 of Ito JP 2001-112072 which shows the amount of ammonium in all image-forming layer side of sample is  $0.23 \text{ mmol/m}^2$ . There is no unexpected results associated with this sample in comparison with the inventive results shown therein. The results in Table 1 attached to the Declaration is not related to the samples of JP'072. The closest samples to the claimed invention is samples 12-13 shown in Table 1 of JP'072. Moreover, the  $D_{\text{min}}$  and  $D_{\text{max}}$  associated with the material shown in Table 1 of JP'072 are similar to that shown in Table 1 of the Declaration. These results would have been expected by the worker of ordinary skill in the art. The inventive results shown in Table 1 such as sample 1-11 is related to the use of the NaOH as pH modifier similar to samples 13-14 in Table 1 of JP'072. It would have expected the samples in 13-14 of JP'072 would have similar difference in width due to the use of same pH modifier.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tchea *tl*  
October 21, 2007



Thorl Chea  
Primary Examiner  
Art Unit 1795